DOCUMENT RESUME

ED 216 438 EA 014 611

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TITLE Incentive Pay for Teachers: Impacts in an Urban District.
PUB DATE Mar 82
NOTE 16p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, March 19-23, 1982).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Elementary Secondary Education; Employment Opportunities; Faculty Mobility; *Incentives; *Rewards; School Surveys; Tables (Data); Teacher Attendance; Teacher Attitudes; *Teacher Salaries
IDENTIFIERS Houston Independent School District TX; *Second Mile Plan

ABSTRACT

Researchers used school district data and an attitudinal survey to assess an incentive pay plan for teachers instituted by the Houston (Texas) Independent School District for the school years 1979-81. Called the Second Mile Plan (SMP), the scheme aimed to improve student academic achievement and teacher attendance, lessen teacher turnover, fill teaching vacancies, and provide extended instructional programs. The SMP rewarded teachers in seven areas, including student gains on standardized achievement tests, teaching assignment location, certification in critical curriculum areas, professional development, attendance, extended instructional time, and recruitment of other teachers into the district. Data on teacher pay show the incentive stipends added $6.5 million to total teacher salaries in 1979-80, or about 6 percent of average teacher salary. In 1980-81 stipends added $4.5 million. The data further show that for both years teacher attendance and student test scores improved and teacher turnover and vacancies decreased. Extended programs were added in 1979-80 but this part of the SMP was dropped in 1980-81. Random-sample surveys of district teachers indicate, however, that neither recipients nor nonrecipients of stipends felt the SMP influenced them to work harder, come to work every day, or develop themselves professionally. (Author/RW)

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Incentive Pay for Teachers:

Impacts in an Urban District

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Houston Independent School District

AERA March 1982

EA 014 611

Second Mile Plan

1979-80 and 1980-81 School Years

IMPACT STUDY

The Second Mile Plan, an incentive pay plan for teachers, was implemented in the Houston Independent School District in the 1979-80 school year. The plan was developed at the direction of the Board of Education to address the following needs:

- reward teachers whose students exhibit high levels of academic growth;
- stabilize faculties in schools where turnover has been high;
- attract teachers in areas where critical shortages exist;
- improve teacher attendance; and
- provide extended instructional programs.

(Second Mile Plan, May, 1979, p.1)

Based on these needs, seven areas of the Second Mile Plan were initially developed.

A description of the seven areas follows.

1. Outstanding Educational Progress by Students

   Classroom teachers assigned to schools where the school norm for students rate of academic gain as measured by standardized tests is greater than the norm for similar schools in HISD would be eligible on the basis of outstanding educational progress.

2. Critical Location of Teaching Assignment

   Classroom teachers who are assigned to schools having high concentrations of economically and educationally deprived students would be eligible.

3. Critical Staff Shortages

   Classroom teachers who are specially certified/endorsed by TEA to teach in curriculum areas where critical staff shortages exist would be eligible, providing they are functioning in an appropriate assignment.

4. Professional Growth Incentives

   Classroom teachers who accumulate graduate college hours in curriculum and instruction appropriate to the teaching assignment or to an assignment in an area of critical shortage would be eligible.

5. Outstanding Teacher Attendance

   Classroom teachers who at the end of the school year have outstanding records of attendance would be eligible.

6. Extended Instructional Service

   Classroom teachers who accept instructional responsibilities requiring extensions of duty time would be eligible. This dimension would also include classroom teachers who regularly accept or are assigned instructional duties for extended day, extended week or extended year programs.

7. Teacher Recruitment

   Classroom teachers who recruit another teacher into the District would be eligible.

In order to earn a stipend, the teacher had to meet the baseline requirements of the Second Mile Plan and make application for each stipend. The baseline requirements in the 1979-80 school year included the following:

- hold a valid teaching certificate or permit appropriate to the teaching assignment;
- be assigned to a school or instructional site;
- be paid on the teacher salary scale (pay grade 7 or 8);
- have an acceptable performance assessment;
- have ten (10) or fewer days of absences (depending on type of absences) during the current school year; and
- interact instructionally with students 51% or more of the instructional day. This would include, but may not be limited to classroom teachers, librarians, and nurses.

The baseline requirements were changed in the second year to reflect a more stringent attendance requirement. For the 1980-81 school year the attendance baseline requirement was decreased to no more than 5 days absence. Also for the 1980-81 school year, the Extended Instructional Time stipend was eliminated

The Second Mile Plan was developed to improve academic achievement, lessen teacher turnover, fill critical shortage teaching vacancies, improve teacher attendance, and provide extended instructional programs. This report will summarize the changes that occurred in these areas during the first and second years of implementation of the SMP. The reader is cautioned that there is no cause and effect relationship implied in this examination of the SMP and changes in achievement, turnover, vacancies, and attendance. The Houston Independent School District has many other programs and policies which also attempt to impact these same areas, therefore desired changes that occurred cannot be solely attributed to any one program or policy, including the Second Mile Plan.

This report is divided into the following sections:

- stipend payment including the number and amount of stipends paid for each dimension of the SMP;
- impact on teacher attendance, turnover, and vacancies, student achievement and extended instructional programs; and
- impact on teacher attitude.

Stipend Payment

Teachers earned stipends during the 1979-80 and 1980-81 school years. These stipends were paid either during those school years or paid at the beginning of the next school year depending upon the stipend requirements. Table 1 contains the date, number, and amount of the stipends paid for each dimension of the SMP. As can be seen in Table 1, total of 15,396 stipend payments were paid for the 1979-80 year in the amount of $6.5 million. Because the high priority location and the critical staff shortage stipends were paid in two payments in 1979-80 (1/2 in December, 1/2 in June), the actual number of full stipend payments for 1979-80 can be more closely estimated at 11,450. A teacher could earn one or more stipends and approximately two-thirds of the teachers earned at least one stipend in 1979-80.

Of those teachers who earned stipends in the first year, the average total amount received was $937. The average salary of HISD teachers in 1979-80 was $15,295; therefore the average stipend amount represents an increase in the average teacher's salary of about 6%.

Approximately $4.5 million in stipends (8,658 stipend payments) have been paid for the 1980-81 school year. The Extended Instructional Time stipends were removed from the Second Mile Plan for the 1980-81 school year.

Impact on Attendance, Turnover, Vacancies, Student Achievement, and Extended Instructional Programs

Improved teacher attendance, stabilized faculties, fewer teacher vacancies, improved student achievement, and extended instructional programs were all goals of the Second Mile Plan. Although changes in these areas cannot be attributed solely to the SMP, it is reasonable to examine these areas to ascertain if any improvement occurred during the first two years implementation of the SMP. Generally data for the 1978-79 school year (the year before implementation of the SMP) is compared to data for the 1979-80 and 1980-81 school years.

TABLE 1

Second Mile Plan Stipends Paid
1979-80 and 1980-81 School Year

Stipend	Date Paid	Number of Stipends Paid	Total Amount Paid ($)	Stipend Range ($)
FIRST YEAR				
High Priority Location	December, 1979	2,140	720,697	200-500 per semester
	June, 1980	1,780	597,020	200-500 per semester
		3,920	1,317,717	
Critical Staff Shortage	December, 1979	2,095	670,998	100-450 per semester
	June, 1980	1,741	580,105	100-450 per semester
		3,836	1,251,103	
Extended Time	As earned	810	327,107	100-500
Outstanding Teacher Attendance	October, 1980	3,169	1,007,600	50-500
Professional Growth	October, 1980	420	170,600	300-800
Outstanding Educational Progress	December, 1980	3,235	2,478,336	800
Teacher Recruitment	December, 1980	6	3,200	400-600
	Total (1979-80)	15,396*	$6,551,163	
SECOND YEAR				
High Priority Location	June, 1981	1,268	437,994	200-500
Critical Staff Shortage	June, 1981	1,200	894,806	400-900
Outstanding Teacher Attendance	October, 1981	3,457	1,111,000	50-500
Professional Growth	October, 1981	332	145,200	300-800
Outstanding Educational Progress	December, 1981	2,387	1,909,600	800
Teacher Recruitment	December, 1981	15	7,200	400-600
	Total (1980-81)	8,658*	$4,505,800	

Teacher Attendance. Teacher attendance was impacted by the SMP in two ways. First, attendance was a part of the baseline requirements involved in receiving any of the SMP stipends. A teacher had to have 10 or fewer days absent (no more than five consecutive days and/or five non-consecutive days) in order to meet the baseline attendance requirement in 1979-80 and five or fewer days absent in 1980-81. Second, there was a component of the SMP, Outstanding Teacher Attendance, that was specifically designed to improve teacher attendance. For this stipend, a teacher with five or fewer days absent during the school year could "sell back" unused sick leave days.

Table 2 contains a comparison of the average number of absences for the 1979-80 and 1980-81 school years and for the 1978-79 school year (year before implementation) for elementary teachers, secondary teachers, nurses, and teachers in critical shortage fields.

TABLE 2

Teacher Absences (days)
Comparison of 1978-79, 1979-80 and 1980-81 School Years

Group	1978-79 Average Absences	1979-80 Average Absences	1980-81 Average Absences
Elementary Teachers	9.2	7.5	7.8
Secondary Teachers	8.5	7.7	7.6
Nurses	10.1	9.1	8.3
Critical Shortage Teachers*	10.3	8.0	7.1
Total Teachers	9.0	7.7	7.6

*Includes bilingual, math, science, and special education teachers.

Teacher absences decreased an average of 1.3 days in the 1979-80 school year and 1.4 days in 1980-81 school year from the 1978-79 school year. For those teachers in the critical shortage fields of math, science, bilingual, and special education, absences decreased from 10.3 days per teacher in 1978-79 to 8.0 per teacher in 1979-80 and to 7.1 in 1980-81. In 1980-81 elementary teachers absences increased slightly over the 1979-80 school year, but still well below the level of absences of the 1978-79 school year.

One additional advantage of improved teacher attendance is the diminished need for substitute teachers. The average number of absences decreased 1.3 days in 1979-80 which yields 12,499.5 days in which substitutes were not needed (1.3 x 9615 teachers = 12,499.5 days). In 1980-81, the decrease was 1.4 days which yeilds 13,403.6 days in which substitutes were not needed.

Teacher Turnover. The impact of the SMP on total District teacher turnover can be examined by reporting resignations, leaves, retirements, and transfers. Table 3 contains data on the percent of teachers in 1978-79 and 1979-80 who resigned, took a leave (medical, study, parental, etc.), retired, or transferred from one HISD campus to another HISD campus.

TABLE 3
Total District Teacher Turnover
1978-79, 1979-80 and 1980-81

Reason	1978-79	1979-80	1980-81
Resignation	10.6%	9.5%	10.1%
Leave	3.2%	2.7%	2.5%
Retirement	1.7%	0.9%	2.2%
Transfer	8.2%	8.1%*	5.6%**
Total	23.9%	21.3%	20.6%

* Teachers who transferred to staff new campuses (Clifton, Revere, Welch and Holland) are not included in this figure.

** Teachers who transferred from campuses where the grade configuration was changed from K-6 to K-5 or from 7-9 to 6-8 are not included in this figure.

Teacher turnover decreased an average of 2.6% from 1978-79 to 1979-80. The largest decrease was in resignations which decreased from 10.6% of teachers in 1978-79 to 9.5% of the teachers in 1979-80.

The total turnover rate for 1980-81 was 20.6% or a decrease of 3.3% from 1978-79 and 0.7% from 1979-80. The largest decrease occurred in the transfers within the district. Only 5.6% of the teachers transferred in 1980-81 compared to 8.1% in 1979-80 and 8.2% in 1978-79. This figure may be underestimated slightly due to grade configuration changes at campuses. The transfers from these schools could not be traced as to reason for transfer, so all transfers from these schools were removed from the analysis.

Table 4 contains the median percent turnover (including resignations, retirements, leaves and transfers) for the high priority location schools. There are 15 elementary and 3 secondary campuses in each category based on the socioeconomic level as reflected in the Title I Economic survey. Category I contains the campuses with the lowest socioeconomic level, Category II schools are in a slightly higher economic level, and Category III schools are the highest economic level of Title I schools. The turnover figures are for the June to January time period for two years (June 1979 to January 1980 and June 1980 to January 1981). These time periods are used because this period contains the largest amount of turnover during the school year. The June 1979 to January 1980 time period reflects turnover immediately before the beginning of the SMP and during the first semester of the SMP. The June 1980 to January 1981 period reflects turnover after one full year of implementation of the SMP.

TABLE 4

Median Percent Teacher Turnover
High Priority Locations by Category

	June 1979-January 1980	June 1980-January 1981	% Change
Category I	18.2%	15.1%	- 3.1%
Category II	19.6%	15.7%	- 3.9%
Category III	16.9%	14.4%	- 2.5%

The turnover rate at high priority locations decreased by 3.1% at Category I schools, 3.9% at Category II schools and by 2.5% at Category III schools. These figures indicate that less turnover occurred at high priority locations after the first year implementation of the Second Mile Plan.

Teacher Vacancies. Another purpose of the Second Mile Plan was to decrease the number of teaching positions which could not be filled with a qualified teacher. Table 5 contains a comparison of the number of vacancies for the beginning of the 1979-80, 1980-81, and 1981-82 school years.

TABLE 5
Beginning of Year Vacancies
1979-80, 1980-81, and 1981-82

	August 1			September 1			October 1		
	1979	1980	1981	1979	1980	1981	1979	1980	1981
Elementary	191	47	138	140	29	82	123	70*	86
Secondary	164	68	137	99	47	78	58	19	52
Special Fields**	258	90	101	129	49	55	132	56	49
Totals	613	205	376	368	125	215	313	145	187
	(5.6%)	(1.9%)	(3.4%)	(3.4%)	(1.2%)	(1.9%)	(2.8%)	(1.4%)	(1.7%)

Total teachers	1979	1980	1981
	10,836	10,621	10,959

*Increase in number of Hispanic children (possibly children of aliens) caused need for more bilingual teachers at the elementary level.

**Special fields include special education teachers, nurses, music teachers, vocational teachers and librarians.

The percent of vacancies decreased substantially in 1980-81 and 1981-82 from the 1979-80 school year. As of August 1, 1980 there were 1.9% vacant teaching positions in HISD, 1.2% in September, and 1.4% in October. For these same time periods in 1979-80 school year, the vacancy rates were 5.6%, 3.4% and 2.8%. Although the beginning of year vacancy rates increased from 1980-81 to 1981-82, they still remain well below those of 1979-80.

Additionally, HISD needed to attract teachers in the critical staff shortage areas of bilingual, math, science, and special education. Table 6 contains the number of vacancies in these critical staff shortage areas for the beginning of the 1979-80, 1980-81 and 1981-82 school years.

TABLE 6
Critical Staff Vacancies
1979-80 and 1980-81

	August 1			September 1			October 1		
	1979	1980	1981	1979	1980	1981	1979	1980	1981
Bilingual	47	11	61	61	7	54	50	20**	46.5
Math	36	15	41	23	12	30	14	5	21
Science	28	14	21	22	3	16	15	2	7
Special Education	140(1087)*	47(1012)*	63	89	20	31	107	35	33
Totals	251	87	186	195	42	131	186	62	107.5

* These figures represent the total number of teaching positions for special education. There was a decrease in number of positions from 1979-80 to 1980-81.

** Increase in the number of Hispanic children caused need for more bilingual teachers from September to October.

There was a substantial decline in the number of vacancies in the critical staff shortage fields of math, science, bilingual and special education from 1979-80 to 1980-81. In 1981-82, the number of vacancies in the critical fields increased above those levels of 1980-81, but still remained well below the vacancy levels of 1979-80. It is hypothesized that there is increased numbers of math vacancies because of the implementation of the competency testing program. This program requires students to enroll in remedial math courses if they do not pass the Houston Minimum Competency Test (HMCT) in math.

Student Achievement. One of the most important areas of the Second Mile Plan is academic growth of students. The Outstanding Educational Progress (OEP) dimension of the SMP was designed to reward teachers whose students demonstrated high levels of academic growth. Standardized achievement test scores can be analyzed to determine what levels of academic growth were evident in the 1979-80 and 1980-81 school years. Table 7 contains the 1978-79, and 1979-80 and 1980-81 Iowa Tests of Basic Skills (ITBS) scores for grades 1-6. Table 8

contains the 1979-80 and 1980-81 achievement test scores for grades 7-12. No 1978-79 data is included because testing was not conducted at every grade. At grades where testing was conducted, it was completed in the fall rather than the spring and reported in terms of percentile ranks rather than grade equivalents.

TABLE 7
Achievement Test Score for Grades 1-6
1978-79, 1979-80, and 1980-81

Grade	Expected Grade Placement	1978-79 Composite Score (ITBS)	1979-80 Composite Score (ITBS)	1980-81 Composite Score (ITBS)
1	1.8*	2.0	2.0	1.9
2	2.8*	3.1	3.0	2.9
3	3.7	3.9	3.9	3.8
4	4.7	4.7	4.9	4.9
5	5.7	5.6	5.8	5.9
6	6.7	6.6	6.7	6.7

*Expected grade placement for grades 1 and 2 was 1.8 and 2.8 for 1978-79. In 1980-81, testing was completed one month earlier, therefore the expected grade placement was 1.7 and 2.7.

NOTE: No cause and effect relationship between OEP dimension and achievement growth is implied. The Houston ISD had implemented several programs over the past several years designed to improve student achievement.

From the 1978-79 to the 1979-80 school year, improvement in composite test scores was evident at grades 4, 5, and 6, no change occurred at grades 1 and 3, and a decline of one month occurred at grade 2. From 1979-80 to 1980-81 improvement occurred at grade 5 and a mone month decline occurred at grade 3. At all elementary grade levels, however, the average academic achievement of students at grades 1-6 met or exceeded the expected grade placement for 1979-80 and 1980-81.

TABLE 8
Achievement Test Scores for Grades 7-12*
1979-80 and 1980-81

Grade	Expected Grade Placement	1979-80 Composite Score	1980-81 Composite Score	Months Improvement
7	7.7	7.2	7.4	+2
8	8.7	8.1	8.3	+2
9	9.7	8.5	8.6	+1
10	10.7	9.7	9.9	+2
11	11.7	10.6	10.8	+2
12	12.7	**	11.9	-

* Testing at grades 7-9 took the ITBS and grades 10-12 took the Tests of Achievement and Proficiency (TAP).

* No testing at grade 12 with the TAP in 1979-80.

Test score improvement from 1979-80 to 1980-81 was evident at every grade level tested. Improvement in achievement ranged from one month at grade 9 to two months at grades 7, 8, 10, and 11.

Extended Instructional Programs. The Second Mile Plan was also designed to provide extended time instructional programs to HISD students. The course areas in which extended time instruction was given in the 1979-80 school year included language, reading and study skills, mathematics, and gifted and talented. As of February 4, 1980, a total of 765 courses had been approved. These courses were designed with a ten hour minimum time length and a 60 hour maximum time length. Seventy percent (70%) of the courses were offered at the elementary level and 30% were offered at the secondary level. Teachers were paid $10 an hour for teaching a course in the extended time instructional program and were paid as they taught the course instead of a lump sum stipend. Also, teachers were not required to meet the baseline attendance requirement of the Second Mile Plan. This component was eliminated as a part of the Second Mile Plan for the 1980-81 school year, although the program was continued at Title I campuses.

Teacher Attitude

Teachers' attitudes toward the Second Mile Plan have been examined at two points in time - May, 1980 and January, 1981. At the time teachers were surveyed in May, 1980, only two stipends had been paid (Critical Staff Shortage and High Priority Location) for the 1979-80 school year. However, when the teachers were surveyed in January, 1981, all stipends for the first year of the Second Mile Plan had been paid. These teacher attitude data then reflect these two points in time for the first year implementation of the Second Mile Plan.

In May 1980 surveys were sent to a random sample of 1,951 teachers or approximately 18% of the District's teachers. A total of 710 teachers (36%) responded to the survey. In January 1981, surveys were sent to a random sample of 520 teachers or approximately 5% of the District's teachers. Surveys were received from 269 teachers or 52% of the sample.

Of those teachers surveyed in January 1981, 66% indicated that they received one or more Second Mile Plan stipends. Table 9 shows the distribution of stipends among the teachers surveyed.

TABLE 9

Percent of Teachers Who Reported Receipt
of Second Mile Plan Stipends for the 1979-80 School Year

18%	High Priority Location (paid December 1979, June 1980)
31%	Outstanding Teacher Attendance (paid October 1980)
22%	Critical Staff Shortage (paid December 1979, June 1980)
8%	Professional Growth (paid October 1980)
6%	Extended Instructional Day (paid as earned)
32%	Outstanding Educational Progress (paid December 1980)
< 1%	Recruiting Other Teachers (paid December 1980)

When compared to the actual stipends paid for the 1979-80 school year, the proportion of stipends received by the survey respondents, closely parallels those actually paid. For example, 29% of teachers were paid the Outstanding Teacher Attendance Stipend and 31% of the sample indicate they were paid that stipend. These results indicate that the survey respondents do not over or under-represent the proportion of teachers in the District who received SMP stipends. Other data on experience, school level, teacher ethnicity, and sex indicate that the survey respondents accurately represent the HISD teaching staff.

In the May 1980 and January 1981 surveys, teachers were asked to respond to seven items about their attitude toward the Second Mile Plan. Table 10 contains the responses to these items of teachers surveyed in January 1981. Responses are included separately for stipend recipients and non-recipients.

TABLE 10

Teacher Attitude Toward the Second Mile Plan
January, 1981

		Agree	Disagree	No Opinion or No Response
. Teachers who deserve recognition qualify for the Second Mile Plan.	Recipients	46%	41%	13%
	Non-Recipients	20%	63%	17%
. The Second Mile Plan is an additional incentive for me...				
. to continue teaching in the classroom,	Recipients	45%	42%	13%
	Non-Recipients	21%	64%	15%
. to develop myself professionally,	Recipients	42%	41%	17%
	Non-Recipients	31%	59%	10%
. to come to work everyday,	Recipients	47%	38%	15%
	Non-Recipients	28%	54%	18%
. to work harder with my students.	Recipients	39%	44%	17%
	Non-Recipients	21%	64%	15%
. The Second Mile Plan offers a desirable reward for extra effort.	Recipients	52%	38%	10%
	Non-Recipients	36%	55%	9%
. Generally, I feel the Second Mile Plan should be continued.	Recipients	58%	26%	16%
	Non-Recipients	39%	47%	14%

Approximately 50% of the stipend recipients viewed the Second Mile Plan positively in January, 1981. Non-recipients' opinions of the Second Mile Plan were consistently negative on each item, however, 39% of non-recipients and 58% of the recipients agreed that the plan should be continued. There was a fairly large proportion (generally around 15%) of no opinion or no response from each group on the items. This response may indicate that the teachers do not have particularly strong opinions about the plan.

The results of the May 1980 survey were generally similar to the January 1981 results for stipend recipients. After all stipends were paid, satisfaction with the plan among all teachers was less positive.

Generally neither recipients or non recipients indicated that the plan was an incentive for them to work harder, continue teaching, come to work everyday, or develop themselves professionally. Athough data reported early in this report indicates an improvement in attendance and a lower rate of teacher turnover, teachers do not agree that they personally were influenced by the Second Mile Plan.

SMP3-ES-5jk/pah